



Assessment and Validation of the geoid, MSS and MDT models in the OCTAS project

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This study provides the detailed assessment of the geoid, the mean sea surface (MSS) and mean dynamic topography (MDT) in the area of the OCTAS project (North Atlantic, above the latitude of 65 N). All available models (geoid, MSS, MDT) including the models provided in the OCTAS project, are evaluated by inter-comparison between the models and also performing correlation analysis. Inter-comparison of the models are also verified along some profiles. To perform the validation and assessment, the residuals were determined by the simple formula $r = \text{MSS} - \text{geoid} - \text{MDT}$. This is applied on all combinations of the models and the best combination is chosen in such a way that they provide better consistency with smaller standard deviation for the residuals. Residuals come from different combinations of the models will also be investigated and mismatch areas will be shown and explained according to the information we have from the models. Finally, by comparing the residuals both in the space and spectral domains with the respective error characteristics, the accuracies of the products will be assessed.